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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,440	08/23/2006	Rabah Arhab	1200.761	8473

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EXAMINER	
LIGERAKIS, JOHN	

ART UNIT	PAPER NUMBER
4136	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,440	ARHAB ET AL.	
	Examiner	Art Unit	
	John V. Ligerakis	4136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/23/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art (as discussed in the related art of the background invention on Page 1, Line 12 through Page 2, Line 8) in view of Worner et al (US Patent 5,533,602) and Fukunaga et al (US Patent 6,464,054).** Applicant's admitted prior art discloses a coupling apparatus comprising a casing, a turbine wheel, a lock-up clutch, a damping device, wherein the turbine wheel, turbine hub, and damper plate of the damping device are coupled together by rigid joints. However, applicant's admitted prior art does not disclose the damper plate located between the turbine wheel and the turbine hub wherein the turbine wheel and hub are welded together, nor does the prior art disclosed by the applicant disclose a hydrokinetic coupling apparatus wherein the Damper plate is between the turbine wheel and the turbine hub. Worner et al (See Fig. 1) discloses a turbine wheel of a torque converter wherein the turbine wheel (5) is welded to the hub (9) and the flange (50) is welded to the hub (5). At the time of the invention, it would have been obvious to a person of ordinary skill in this art to weld the turbine wheel and hub together in

Applicant's admitted prior art as taught by Worner et al. The motivation for doing so would have been to make the correction between the wheel and hub more secure.

However, the combination of Applicant's admitted prior art and Worner et al does not disclose a coupling device with a damper plate between the turbine wheel and the turbine hub. Fukunaga et al discloses a torque transmitting device wherein (See Fig. 1) the damper plate (32) is between the turbine wheel (20) and the turbine hub (22). At the time of the invention, it would have been obvious to a person of ordinary skill in this art to locate the damper plate between the turbine wheel and turbine hub in the combination of Applicant's admitted prior art and Worner et al. in view of the teaching of Fukunaga et al. Furthermore, the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

3. Regarding Claim 2, Worner discloses the coupling apparatus as shown above wherein the mean diameters of the annular contact faces (14, 20) of the flange portion are substantially equal to each other.

4. Regarding Claims 3, 4 and 9-13, Worner discloses the coupling apparatus as shown above wherein the front and rear weld joints have a flange portion extended axially to permit access to inner and outer weld bands (See Fig. 1)

5. Regarding Claims 5 and 6, Worner discloses the coupling apparatus as shown above wherein the band.mean diameters of the front and rear inner weld bands of the first and second welded joints are substantially equal to each other and substantially equal to the internal diameter of the flange portion. (See Fig. 1)

6. Regarding Claims 7 and 8, Worner discloses the coupling apparatus as shown above wherein turbine hub (9) includes a radial plate portion, the outer radial periphery of which includes an annular boss which extends axially forward and carried the said front weld face of the turbine hub and characterized in that the mean diameter of the rear outer weld ban is substantially equal to the greatest external diameter of the radial plate portion of the turbine hub. (See Fig. 1)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brees et al (PG Pub 2007/0256905) states welding is one of the various known means for retaining the drive plate to a hub (See [0007], Lines 12-17). Wack et al (PG Pub 2002/0175037) shows a torsional vibration damper for a hydrodynamic torque converter with the use of welds between the turbine wheel and hub. Middelmann et al (US Patent 6,193,037) shows a hydrodynamic torque converter wherein the turbine wheel and hub are connected with welds. Maienschein et al (US 2002/0125093) shows a torque-transmitting apparatus for motor vehicles which includes a hydrokinetic torque converter and mentions the use of rivets of weld joints as interchangeable. Maienschein et al (US 6,439,361) shows a torque transmitting apparatus with the use of weld connections for the turbine wheel. Matsuoka (US Patent 6,286,648) shows a lockup device for a torque converter provided with a damper mechanism with the contact faces located diametrically equal to each other. Heller (US

Patent 6,223,872) shows a torque converter with the use of multiple welds connections on the turbine wheel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Ligerakis whose telephone number is (571) 270-3278. The examiner can normally be reached on M-Th 8am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Allen Shriver can be reached on (571)272-6698. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9179 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call (800) 786-9199 (IN USA OR CANADA) or (571) 272-1000

/John V Ligerakis/

Examiner, Art Unit 4136

/J. Allen Shriver/
Supervisory Patent Examiner, Art Unit 4136